

## **CHAPTER II**

### **THE HISTORY OF BRAIN DRAIN PHENOMENON**

This chapter will briefly explain what the brain drain phenomenon in general and the history lied beneath it. Furthermore, the writer will divide the topic into two parts, the first part will discuss the beginning of the brain drain phenomenon in the 1960s and the second part will discuss the brain drain phenomenon in India.

#### **A. History of Brain Drain Phenomenon**

As mentioned in chapter 1, the brain drain phenomenon generally was defined as the situation where there are a huge number of highly educated people like scientists, engineers, doctors and prominent students. They look for a better job, a better life condition and better education system from their origin country to other countries. Most of the migration came from the less developed countries to the developed countries, especially to the United States. The brain drain phenomenon started in the early 1960s, where most skilled migrants from the countries in 'South' migrate to the western countries.

To define 'brain' we can separate it from 'skills' or 'qualifications' words. According to the Organization for Economic Co-operation and Development (OECD) in Freitas, Levatino, & Pécoud (2012, p. 1), 'highly skilled' people are those who already completed tertiary education, which in most countries corresponds to a university degree. The student also considered as skilled migrants because it assumes that student represents a potential human source for the sending country (home country)

In 1963, the term brain drain was introduced by the British Royal Society to define the scientists and technologists from United Kingdom (UK) who migrated from the UK to North America and Canada (Cervantes & Guellec, 2002). In another source stated that this term was used by the United

Kingdom to describe the exodus of Indian scientists and engineers (Spring, 2015, p. 185). Afterward, the term of brain drain was widely used to describe the highly educated people or the skilled migrants who migrated from a poor region to the Western world.

### **1. The Early Debate of Brain Drain Phenomenon**

In the 1970s, the discussion about the negative impact of brain drain arose. Mostly believed that the less-developed countries were the loser of this phenomenon because they lack highly educated people to develop their countries. Those negative assumptions led the less-developed countries to seek for better strategies or policies that can anticipate and decrease the number of highly skill migration in the future. One example is the famous ‘Bhagwati tax’.

Bhagwati tax is a compensation that must be paid by the skilled migrant to the government in their home country. It was introduced as the best solution to reduce the number of highly educated migrant by the economist Jagdish Bhagwati in the 1970s. He believed that those skilled migrants are obliged to pay several amounts of tax taken from their income in host country to their home country, more precisely the skilled migrants who migrate to the developed country should pay up to 10% of their yearly net income in the host country for 10 years (Dumitru, 2012).

Moreover, Dumitru (2012, p. 10) summarized the ethical reasoning behind the Bhagwati tax idea, stated that Bhagwati tax is a kind of the principle of redress where the person who migrates voluntarily should compensate the third parties, in this case, is their home country for their losses. It counted as a loss for the home country because those skilled migrants are no longer contributing to the country’s welfare and development, causing the welfare loss to the country. Therefore, Bhagwati believed that paid

the compensation for the welfare loss in the home country is the best solution that can be implemented.

However, while some economists like Bhagwati became pessimists of the brain drain phenomenon, some economist denying the existences of those negative due to the brain drain phenomenon and lead to the greater welfare loss for the home country. Since the beginning of the debate on the brain drain phenomenon, those economists believed that there will be no country that can show the further loss of welfare from the migration due to the brain drain phenomenon. They criticized that those negative side only focuses on counting the loss of welfare rather than counting the number of skilled workers who choose to stay in their home country.

Furthermore, in Dumitru (2012, p. 10) some economists criticized the idea of Bhagwati tax by giving three points of reason. Firstly, there will be no welfare loss if the country counts and formulate the number of skilled migrants as an income for the country. When the country has a qualified human resource (in this case the skilled migrant), the developed country will seek for the more skilled worker from those countries. As the number of skilled migrants increased, it will raise the reputation of the country and the origin of migrant's workplaces.

Secondly, the departure of those skilled migrants should not create a fiscal loss impact to their home country. It's true that those skilled migrants have no contribution to their home country, like income tax, health insurance, etc. Once they decided to move out from their home country, they are cannot claims any longer to the collective benefits (such as government subsidies, health insurances, etc) from their home country. Therefore, some economists believed that there is unnecessary for the government from their home country obligate those skilled migrants to pay the compensation for their loss.

Thirdly, the impact of the brain drain phenomenon can be diminished by the government in the home country.

Instead of focusing only on the loss of specific professions from the home country, the government should give the access and encourage their citizens to actively contribute to organizational skills, creative industries, and political life.

Those reasons above concluded that the negative impact of brain drains such as welfare and financial loss was temporary due to the imbalances in the amount of the skilled workers in the home country. Furthermore, those economists believed that the home country can reduce those imbalances situation through the ability of the country to substitute those skilled worker qualifications to fulfill their needs. However, not all countries could directly adjust the number of the available workforce to fulfill their needs and paid them with the proper amount salary. Therefore, the impact of the brain drain phenomenon between states are diverse, it depends on how the states can respond to such imbalances. The more the states lack of resources, the less investment in the education sector, the greater the incapacity for the states to produce and replace their skilled workers (Dumitru, 2012).

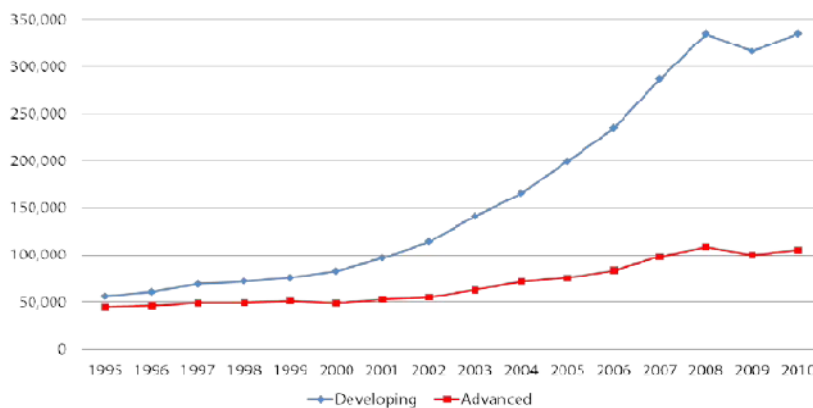
## **2. The Positive Paradigm of Brain Drain Phenomenon**

In the 1990s, the negative paradigm of brain drain phenomenon starts to be shifted. The people start to search for the benefits of sending the skilled migrants to the sending countries, especially the developing countries. The result of the study has highlighted the impacts of remittances on development. There are circular migration and the advantages for the sending countries, the positive outcome on education and training prospects of the population in sending countries, and the role of diasporas in the economy and political development in home countries (Freitas, Levatino, & Pécoud, 2012).

According to IMF (International Monetary Fund) in UNDP (2011, p. 124) remittances are largely the sum of money that sent from the migrant workers to their family

or friends in home countries. For many developing countries, remittances are important sources of foreign funds for the development of the countries. Moreover in 2009, in some developing countries, the number of remittances became as bigger as the amount of FDI (Foreign Direct Investment). According to World Bank and IMF, if the amount of the remittances were calculated, including the remittances that sent through informal channels, the amount could be as much as 50 percent higher than officially recorded. In 2010, it recorded that the number of remittances to developing countries reached \$334 billion. This significantly has grown six times since 1995 (figure 3 2.1) (UNDP - United Nation Development Programme, 2011).

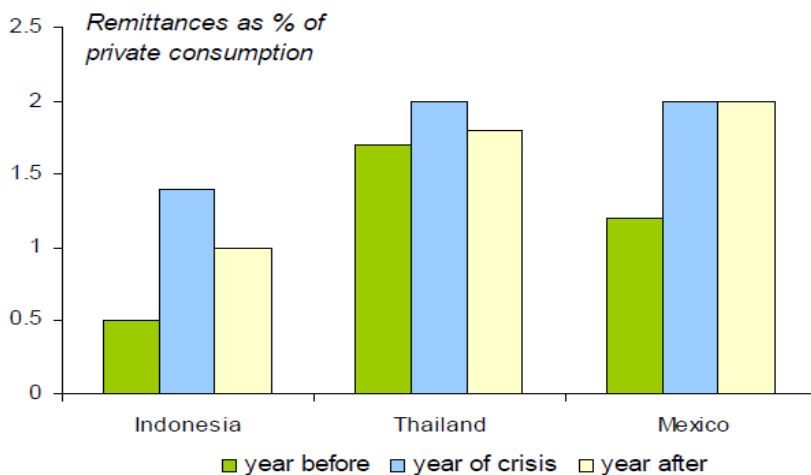
*Figure 3 2.1 2.1 Remittances received by advanced and developing countries*



Source: UNDP - United Nation Development programme. (2011). *Remittances. Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty*, 122-143. Retrieved 2017, from [http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/inclusive\\_development/towards\\_human\\_resiliencesustaini ngmdgprogressinanageofeconomicun.html](http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/inclusive_development/towards_human_resiliencesustaini ngmdgprogressinanageofeconomicun.html)

Although remittances are the component of PCF (Private Capital Flow), it is more stable than PCF in facing the external economic shocks. While countries facing the economic shocks such as natural disaster, economic crisis, and political conflict, the remittances tend to rise. For example, the remittances were rose during the financial crisis in Mexico in 1995 and in Indonesia and Thailand in 1998 (Dilip , 2007). Illustrated in figure 4 2.2.

*Figure 4 2.2 Remittances rise during crisis, natural disaster, or conflict*



Source: Dilip , R. (2007). Leveraging Remittances for Development. *Proceedings of the 2006 Conference on Migration, Trade, and Development* (pp. 173-186). Dallas, Texas: Federal Reserve Bank of Dallas.

By the change of paradigm, the notion of ‘brain drain’ is change to ‘brain gain’ also, the terms circular migration or mobility were increasingly used.

*It was also influenced by the crisis of the historical-structuralism approach in social sciences, by the diffusion of post-modernist thinking and by the emergence of new approaches, which recognized the possibility for individuals to display agency and actively change social structures (Freitas, Levatino, & Pécoud, 2012)*

The change of paradigm created an impact for the society. Every individual can play an active role to change the social structures by improving their living conditions. The migration of skilled people was no longer became a problem. Besides, it can be counted as the ‘solution’ that gives an advantage for the sending countries, the receiving countries, and individual. Furthermore, through this new paradigm, the migration of highly educated people would likely see as the circular process of the individual to train and compete in the global labor market (Freitas, Levatino, & Pécoud, 2012).

In the post-Fordism era, the recognition of knowledge and human capital needs were increased. In addition to that, the demographic changes in the developed countries have encouraged policies of the countries to seek and attract the skilled worker from other countries to tackle the skilled labor shortage in their countries. Those policies, creating the chances for the highly skilled people in the developing countries to improve their living condition (Freitas, Levatino, & Pécoud, 2012).

It also goes for the bright students. The other indication of the change is about the privatization and internalization of education. The university, institution and other tertiary education in the developed countries compete using different strategies to attract the promising bright

student from all over the world. They tried to pull the student by giving chances for them to get a better education through scholarship and exchange programs. Furthermore, those bright students can become a great investment for the developing countries. The developing countries encourage their young generation to study abroad to get benefit from them in the future (Freitas, Levatino, & Pécoud, 2012). Usually, the developing countries seen the scholarship and exchange program as the easiest and cheapest method but could bring much benefits for them. Those developing countries expected that their young generation will decide to return after they finished their study in abroad.

According to Jean Baptiste Meyer in (2012, p. 3), the role of diasporas was not simply transferring capital and technology of the countries and other assets, but diasporas can also develop the local industries in home countries, elaborate the formal and informal networks and introduce about the political change in home countries. There are a lot of study that explain the role and benefit of diasporas network for the country, especially if the government believe of the importance of diasporas network.

## **B. Brain Drain in India**

India was known as one of the largest countries with a huge number of the skilled migrant. It's started in the 19th century, where many highly skilled people from India migrate to the United States to seek for a better living condition. In the 1900 census recorded that there is 2.050 migrant from India and later in the early 20th century, it identified there are 4.713 more migrants from India.

The number of the immigrant from India to the U.S massively increased after the Immigration and Naturalization Services Act of 1965 eliminated the quota of the amount of the immigrant from other countries to enters to U.S (Chacko, 2007). Even until today, the number



of immigrants from India still in the highest number among the other countries in Asia.

The migration of highly educated people from India was influenced by the availability of better jobs for the engineers, scientists, and physicians. The government promise to give a better lifestyle for those highly educated people. The other reason was that the U.S faced a problem, they lacked medical personnel and engineers until the middle of the 1970s (Chacko, 2007). Because of those opportunity, many people in India, especially the highly skilled people decided to migrate from India to the U.S and stay permanently in there. Some of them even brought their family along.

The number of highly skilled people who migrated from India to the U.S still increasing. According to the National Center for Science and Engineering Statistics (NCSES), from 2003 until 2013 the number of scientists and engineers are increasing from 21.6 million to 29.0 million. In 2003, there are 16% approximately 3.4 million scientists and engineers are immigrants, while in 2013, there are 18% or approximately 5.2 million. Among the Asian Countries, India became the top countries with the highest number of the migrant who works as scientists and engineers (table 1 2.1) (NCES - National Center for Science and Engineering Studies, 2015).

*Table 1 2.1 Birthplace of Immigrant and U.S citizen scientists and engineers: 2003 and 2013*

Birthplace	2003			2013		
	All Scientist and Engineers	Immigrants*	U.S Born Citizen**	All Scientist and Engineers	Immigrants*	U.S Born Citizen**
Total	21,647,000	3,352,000	18,295,000	28,950,000	5,179,000	23,771,000
Asia	1,947,000	1,873,000	74,000	3,066,000	2,956,000	109,000
India	521,000	515,000	5,000	956,000	950,000	5,000
Philippines	317,000	304,000	13,000	487,000	465,000	22,000
China (including Hongkong and Macau)	331,000	326,000	5,000	445,000	438,000	7,000
Other Asia	778,000	728,000	50,000	1,178,000	1,103,000	75,000

\* Includes naturalized U.S. citizens, permanent residents, and temporary visa holders.

\*\* Includes U.S. citizens born in the United States, Puerto Rico, or another U.S. territory and U.S. citizens born abroad of a U.S. citizen parent.

Source: NCSES - National Center for Science and Engineering Statistics. (2015). *Immigrants' Growing Presence in the U.S Science and Engineering Workforce: Education and Employment Characteristics in 2013*. (NCES - National Center for Science and Engineering Studies, 2015).

For the students, the number of students who migrated from India to the U.S in order to seek a better education also quite high. According to the Institute of International Education (iie), the number of students from India significantly increased. In 2016-2017, there are 17% student from India (table 2 2.2). By those number, India was the second place with the highest number of immigrant student in the world.

*Table 2 2.2 Top Ten Origin Countries of International Students, SY 1949–50, 1979–80, and 2016–17*

1949-50			1979-80			2016-17		
Country	Number	Share (%)	Country	Number	Share (%)	Country	Number	Share (%)
Total	26,400	100.0	Total	286,000	100.0	Total	1,079,000	100.0
Canada	4,400	16.5	Iran	51,000	17.9	China	351,000	32.5
Taiwan	3,600	13.8	Taiwan	18,000	6.1	India	186,000	17.3
India	1,400	5.1	Nigeria	16,000	5.7	South Korea	59,000	5.4
United Kingdom	800	3.1	Canada	15,000	5.3	Saudi Arabia	53,000	4.9
Mexico	800	3.1	Japan	12,000	4.3	Canada	27,000	2.5
Cuba	700	2.8	Hong Kong	10,000	3.5	Vietnam	22,000	2.1
Philippines	700	2.7	Venezuela	10,000	3.4	Taiwan	22,000	2.0
Germany	700	2.5	Saudi Arabia	10,000	3.3	Japan	19,000	1.7
Colombia	600	2.2	India	9,000	3.1	Mexico	17,000	1.6
Iran	600	2.2	Thailand	7,000	2.3	Brazil	13,000	1.2
Other Countries	12,100	46.0	Other Countries	129,000	45.1	Other Countries	311,000	28.8

Source: Zong, J., & Batalova, J. (2018, May 9). *International Students in the United States*. Retrieved August 14, 2018, from Migration PolicyInstitute:

<https://www.migrationpolicy.org/article/international-students-united-states> (Zong & Batalova, International Students in the United States, 2018)

From the table 1 2.1 and table 2 2.2 show that India proven as the top country with the highest number of skilled migrants to the U.S among other Countries in Asia. As the number of the skilled migrants are increasing, India should take a quick action to prevent the further impact form brain drain phenomenon.